



Low-Fume Plastic Bag Forging

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SUMMARY

Using a double-boiler method, [HDPE](#) bags are forged into workable sheets of solid plastic. This improves on a [previous iteration](#) by not using vegetable oil impregnated into the material.

Step 1 — Low-Fume Plastic Bag Forging



- A bath of canola oil is ideal for keeping the plastic bags at a temperature where they will become tacky and malleable, but not completely melt and produce fumes.
- Create a double-boiler by nesting one non-stick pot inside a larger pot, and filling the space between them about 2/3 of the way with canola or corn oil. Since the smaller pot will float in the oil, you'll want to secure it. I used stainless steel wire attached snugly to each pair of handles.

Step 2



- For a uniform finish, use bags that are the same type of plastic. I used #2 HDPE (high density polyethylene). This is the material used in the majority of disposable supermarket bags, though sometimes you'll find #2 LDPE (low density polyethylene). Either one will do; just make sure you don't mix the different types.
- Ball up a bunch of bags in your hand and cut them with a pair of scissors. The pieces don't have to be super-small, just enough so they don't get tangled up with each other during the heating process.

Step 3



- Heat the oil bath and ready your materials. I used a plastic bag full of shredded plastic bags, and used a paint mixing stick to stir. I recommend using a wooden implement as metal may become too hot and stick too much to the plastic.

Step 4



- Fill the pot with plastic pieces and stir continuously. You'll find that the plastic will quickly shrivel and form into a ball. Periodically spread out and break up the ball to encourage even heat distribution.

Step 5



- Keep adding more plastic as you go, and make sure to keep stirring so you don't scorch the plastic and release fumes.
- Secure the double-boiler with your free hand using an oven mitt. Be careful! The oil is very hot.

Step 6



- After a few minutes, when the plastic has been sufficiently heated and congealed, lay it out onto a piece of silicone parchment paper.

Step 7



- Insert the plastic between two rigid pieces of wood or metal, while keeping each side covered with parchment paper so it won't stick.
- Press the plastic in a vise, with the edges held with whatever clamps you have on hand. If I had access to better tools I would have used a hydraulic press for this step.

Step 8



- Keep the plastic at tension for at least 15 minutes until it cools.

Step 9



- Congratulations! You now have a point-of-use recycled piece of plastic stock with which to fabricate DIY projects. The advantage of this over the old "stewing" method is that you no longer have to worry about constant greasy residue, and the natural marbling of the plastic bags can make for interesting textures in your designs. Good luck!

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